

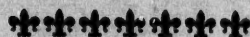
186.
Bryant Cold Metal

Sawing Machines

Q & C

Shop Saws and

Shop Saw Blades



Manufactured by

The Q & C Company

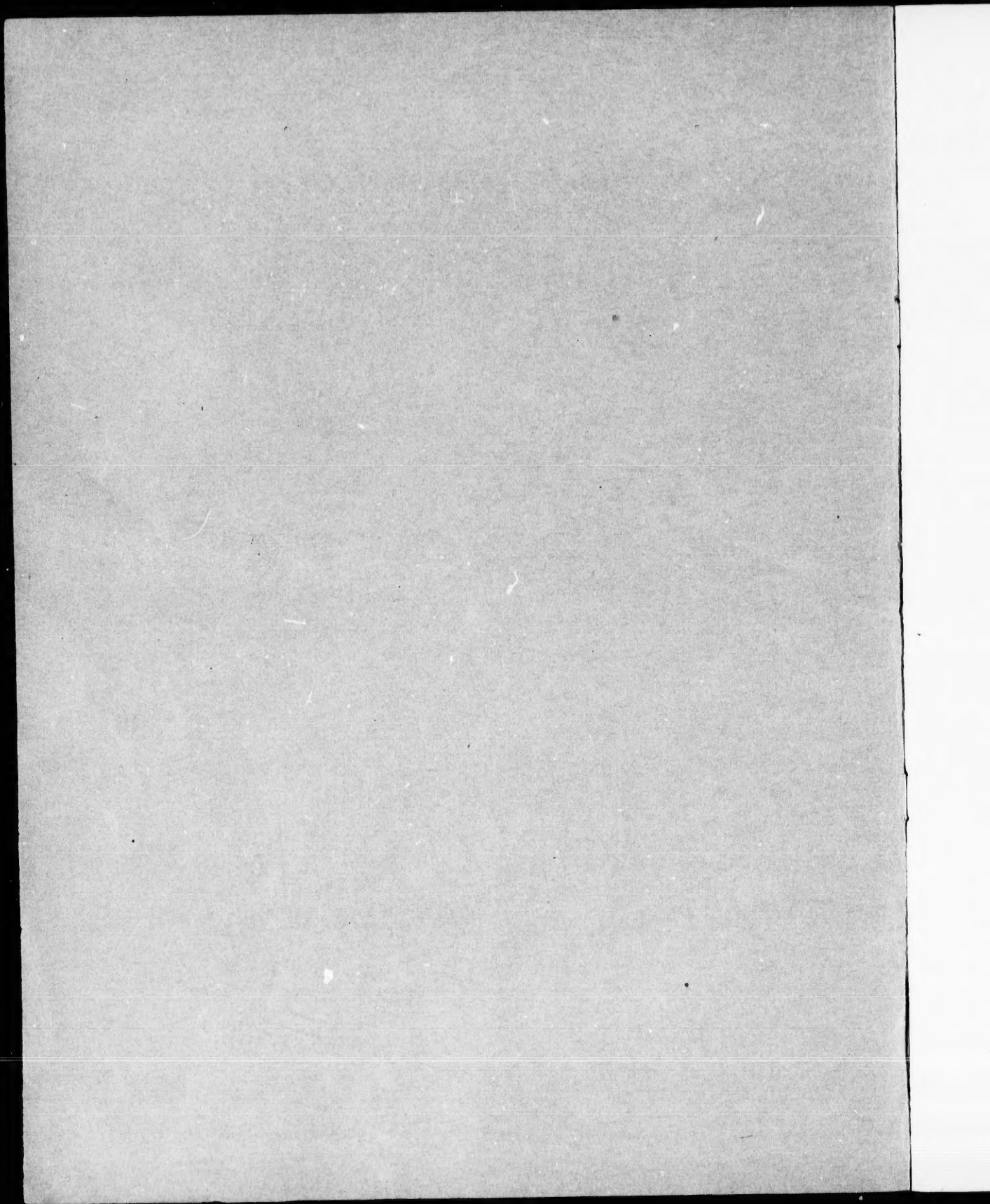
GENERAL OFFICES:

700-709 Western Union Building

**Jackson Boulevard and
Clark Street**

Chicago, Illinois

1898



The Q & C Company

Manufacturers of

Railway Specialties and Special Machinery



CHICAGO HEADQUARTERS

General Offices:

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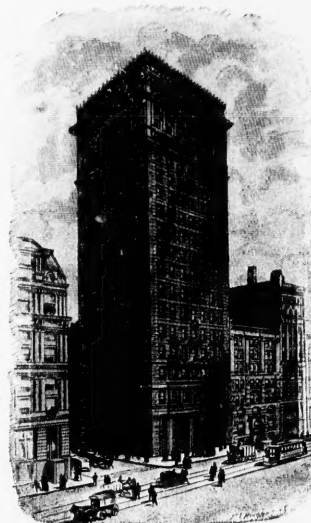
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FACTORY
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NEW YORK OFFICE

—OUR SPECIALTIES—

The Servis Tie Plate
McKee Brake Slack Adjuster
Dunham Car Doors
Q & C Trolley Car Doors
Perfection Oil Purifier
Q & C Priest Snow Flanger

Bryant Portable and Power Saws
Q & C Shop Saws and Saw Blades
Williams' Valve Setting Device
Q & C Scott Boiler Feeder
Q & C Locomotive Check Valve
Globe Ventilators, Etc.

SEND FOR OUR RAILWAY SPECIALTY CATALOGUE

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PREFACE

General Idea This catalogue is intended to give only a general idea of the different sizes and capacities of Cold Sawing Machines which we manufacture and carry regularly in stock, and the class of work for which they are best adapted.

Our Policy It is our policy to sell these machines subject to fair and impartial trial before acceptance, and we court most complete and thorough test in keeping with our guarantee and representations made as to the capacity and adaptation of each machine, not, however, holding ourselves responsible for breakages or failures that result from experimentation outside of our guarantee.

Our Facilities We have very best facilities for getting up special machines to meet requirements of customers whose work is out of the ordinary line, and will be glad to furnish estimates of cost upon receipt of information giving results to be accomplished and invite correspondence from parties seeking such machines.

Material and Workmanship All our machines are made of the very best material and constructed in a workmanlike and substantial manner, but should it be necessary to duplicate any parts, please give name and number of machine, date of purchase, and complete description or sketch of part wanted, and as these are always carried in stock and interchangeable, repairs can be furnished promptly.

Our Plant Our factory is located in the suburbs of Chicago, at Chicago Heights, Ill., on the C. & E. I., and Chicago Outer-Belt Line R'y's. It is large, commodious and equipped with latest improved machinery and our shipping facilities are unsurpassed. See page 24.

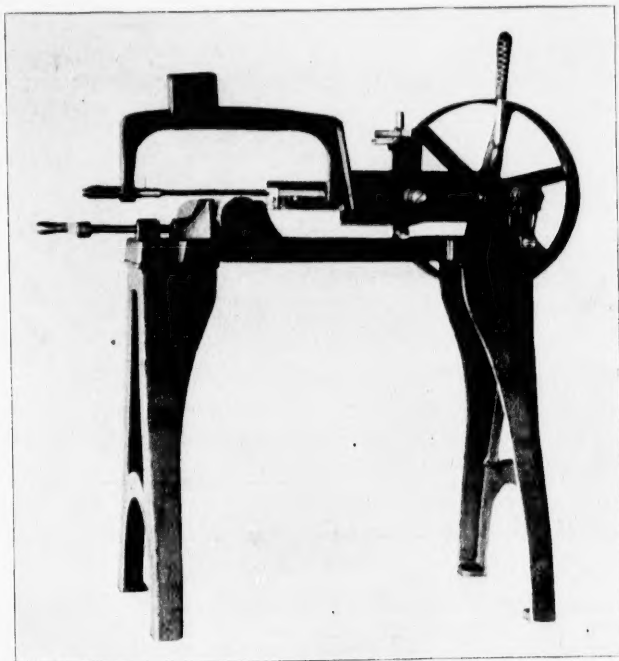
Correspondence Should you not find all desired information within these pages, please write us and we will answer all inquiries promptly and cheerfully.

THE Q & C COMPANY

THE NEW Q & C SHOP SAW, No. 1

LATEST OUT LATEST DESIGN

Has Automatic Variable Feed which can be instantly changed without stopping the machine.
Is supplied with improved gravity feed for extremely hard metals of small size.



DETAILS

Capacity, 4 in. Solids
Floor Space, 18 x 30 inches
Height, 26 inches
Weight, 130 pounds
Speed, 50 revolutions per minute
Size of Pulley, 14 x 2½ inches

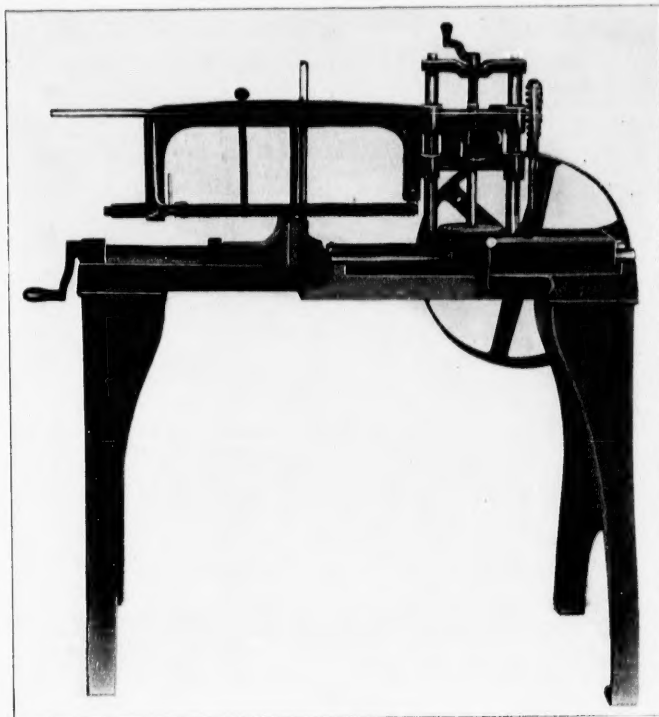
Stroke of Saw Blade, 6 inches
Saw Blades, Q & C, 12 inches long
Gravity feed in connection with our adjustable power feed.
Automatic stop throwing out clutch.
Perfect steel hardened saw guide



Our many years of experience in the manufacture of Metal Sawing Machines for all purposes, has led us to believe that there is a demand for a cheap shop saw of small capacity, and one which will cut tool steel as well as other metals. The No. 1 Shop Saw, as illustrated above was designed for this purpose and we now offer same to our trade, feeling confident that it will do this work and supply this long felt want for a cheap machine. This Shop Saw is our latest design and in the construction of same we have overcome the weak points of and greatly improved upon the old style machines, believing in so doing we would be able to furnish a cheap Shop Saw that would be entirely satisfactory to our large trade.

Sold complete, including six of our 12 inch Saw Blades, for tool steel.

THE Q & C SHOP SAW, No. 2



DETAILS

Capacity,	5 inches	Stroke of Saw Blade,	6 inches
Floor Space,	19 x 34 inches	Length of Saw Blade,	14 inches
Height over all,	3 foot 5 inches	Size of Pulley,	14 x 2 1/2 inches
Speed,	50 revolutions per minute	Weight,	140 pounds

Designed for metal workers generally. Capacity 5 inches and less.

THIS machine, with sharp blades, will cut very fast. It will also cut square when properly handled. It will cut off a bar of steel at about one-tenth the cost when using a lathe or planer.

The Q & C Shop Saw, No. 2, is constructed on an entirely different principle from any other machine, great care having been taken to overcome the objections to the old style gravity feed hack saws. It is provided with double guides for saw blades and will cut perfectly square. It is built in the best possible manner, all screws, rods, guides, etc., being made of steel, and is so arranged that a handle can be attached to the pulley if desired to run by hand power.

It is a great improvement over the power hack saw and has positive automatic feed which can be instantly changed to accommodate hard or soft metals, large or small. The power hack saw depends entirely upon gravity feed. The Q & C Shop Saw has positive automatic screw feed, adjustable to all kinds of work.

The old style machines drag the blades backward on the work with nearly, if not quite, as much pressure as on the forward movement. This dulls the saws very rapidly. The frame of the Q & C Shop Saw has a horizontal motion, and does not drag the blade back on the work, actually saving fifty per cent of the wear upon saw blades.

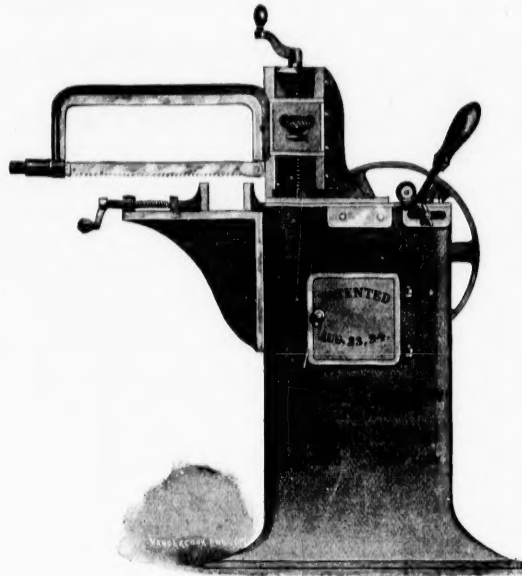
The special blades provided with these machines are twice the width of the ordinary hack saw blades and are much heavier, and will give longer life and better service. The Q & C Shop Saw is fully guaranteed, and sold subject to test trial, before acceptance. Will save its cost in saw blades, alone, in a few months' service.

**Furnished complete with one-half dozen saw blades.
Delivered Chicago or New York.**

THE Q & C SHOP SAW, No. 4

LATEST DESIGN

ADJUSTABLE WORK TABLE



DETAILS

Capacity,	8 inch Solids	Speed,	50 revolutions per minute
Floor Space,	12 x 32 inches	Stroke of Saw Blade,	6 inches
Height over all,	3 feet 2 inches	Length of Saw Blade,	17 inches
Size of Pulley,	14 x 3 inches	Thickness of Saw Blade,	$\frac{1}{8}$ inch
Height of Work Table,	21 inches	Weight,	230 pounds

THIS machine is constructed similar to an ordinary shaper, and is run direct from main shaft. Has cabinet base which can be used as a receptacle for tools, etc.

Takes the place of expensive cutting-off machines; leaves the ends of the work square and smooth, ready to receive the lathe centers.

This machine has our patented automatic feed, of great range, which can be changed from fast to slow, instantly, without stopping.

We recommend this saw for cutting light architectural iron and brass work, piping up to 8-inch diameter and forgings of all descriptions within capacity. Also shafting and bar iron and unannealed steel.

An apprentice can operate ten of these machines at a time.

It will saw off a solid piece of steel 8-inch diameter.

One saw blade should last two or three days continuous cutting on soft metal.

Being entirely automatic in its operation, it requires little or no attention when cutting, and can therefore be used in conjunction with other machines by the same operator.

The saw blades are extra heavy and will not break under severe strain.

The stroke of the saw blade is perfectly horizontal and does not drag back on the work, giving long life to the blade. The cost of operating this machine on ordinary work is so little, as to save its entire cost in a short time, over any other method of cold sawing.

Sold complete with six Extra Heavy Saw Blades and fully guaranteed.

Chicago and New York Delivery.

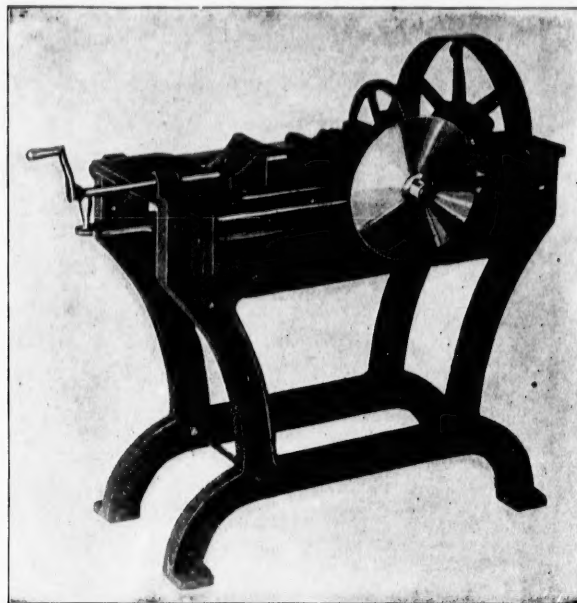
Prices upon application.

THE Q & C CIRCULAR SHOP SAW, No. 8

LATEST DESIGN

A DESIRABLE machine for all metal workers: covers wide range of work, greater than any similar machine made; can be instantly changed from slow speeding machine for cutting or milling steel, to a high speeding machine for sawing brass and other soft metals.

Specially valuable in brass foundries for cutting gates from brass castings. Can be used in stock rooms for cutting up stock, much better than a milling machine, and cheaper than a lathe; suited to all classes of work within its capacity.



Weight, 300 pounds
 Floor Space, 30 x 15 inches
 Speed of Driving Pulley, 150 revolutions per minute
 Diameter of Saw, 10 inches

Thickness, $\frac{1}{8}$ inch or 16 gauge
 Extreme Capacity, 12" x 3 inch solids
 Feeding Speed, $\frac{1}{8}$ to 2 inches per minute, variable

This machine has been designed for general shop use and carries a saw blade 10-inch diameter, and is equipped with reducing gearing to decrease the speed of the saw from 150 to 15 revolutions per minute. The fast speed is used for cutting brass, copper and other soft metals, and is specially valuable for cutting tubing, pipe and gates from brass castings. It is equipped with lever feed which moves the saw forward as rapidly as it will cut, a valuable feature for cutting soft metals.

When the reducing gears are thrown in, the speed is decreased to 15 revolutions per minute, and the saw blade is then run in an oil tank, not shown, attached to the carriage and traveling with it.

Saw blades can be worn down nearly their entire diameter, each machine being furnished with a suitable sharpener, making it complete in every respect.

When not forced, the saw will make a perfectly true cut. The feeding mechanism is simple and positive, and can be instantly changed from slowest to fastest while the machine is in motion. The operation of the machine is so simple that an apprentice can run it.

The machine is equipped with an oil tank for use when cutting hard metals. This must be removed when running at high speed on soft metals.

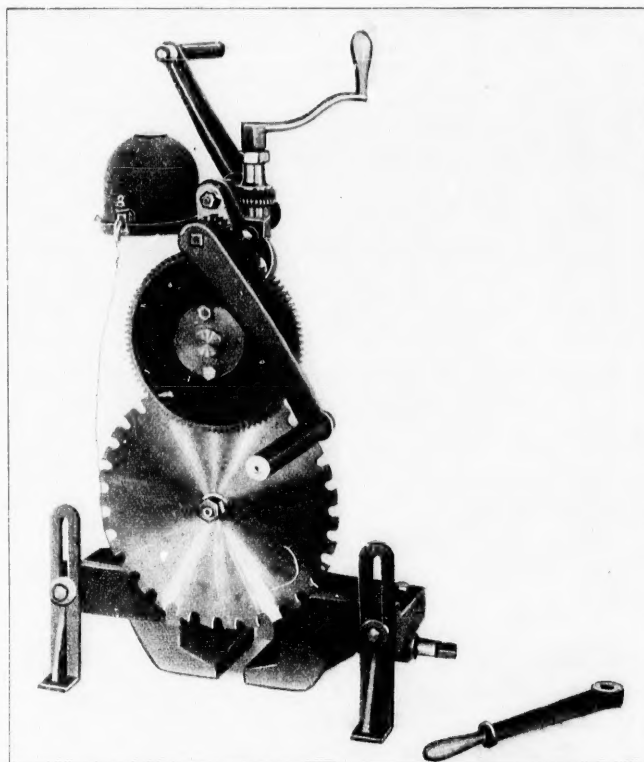
The saw blades are hollow ground, with sufficient clearance to allow the entire blade to be used up, and they should be kept round and true by the use of the saw sharpener. This is very important, as it insures longest life of blades, as well as best results.

THE BRYANT PORTABLE RAIL SAW Nos. 5 and 6

No. 5 Machine
uses 16-inch
saw blade
Designed
for **Steam
Railroads**
For square
cutting **only**.

* A low priced
machine which
will do all the
work which our
more expensive
machines will,
except angles

Valuable for
repair work
Automatic feed



Bryant Portable Rail Saw No. 5.

No. 5 PORTABLE RAIL SAW

THIS machine is similar to our No. 5 A, but is designed for straight cutting only. Its capacity is rails, beams, channels, etc., up to 6 inch in height. It is a strong, durable machine having automatic feed and adjustable jaws for fastening to the work and is designed to meet the wants of those who only have straight cutting to do, and do not care to pay the price of a machine designed for angles. It is of special value for cutting rail ends, as two workmen can handle it easily and carry it from place to place and cut a large number of rails per day. It is furnished complete with two 16-inch saw blades and grinder when requested. Weight, 250 pounds; boxed, 280.

No. 6 MACHINE, STRAIGHT CUT

THIS machine is exactly like our No. 5, but larger, designed for straight cutting up to 9 inches in height and is especially adapted to street railway work where angle work is not necessary. It is furnished complete with two 20½-inch saw blades and fully guaranteed.

It is a well known fact that when rails are cut off with a chisel a large percentage of them break **back of the cut and out of square**. A sawing machine will obviate this and the saving will in a short time pay for the saw. Our method of driving the saw by its periphery enables the operator to do a large amount of cutting easily. The Rail Saw has become a recognized road tool and many railroads consider them almost indispensable. Weight, 275 pounds; boxed, 310 pounds.

Prices upon application.

No. 6 Machine
uses 20½-inch
saw. Designed
for **Street
Railroads**.
For square
cutting **only**.

It cuts the rail
without removal
from track. Can
be operated by
two men. Cuts
a rail in from
6 to 20
minutes. Does
away with back
saws and the
great expense
of blades.

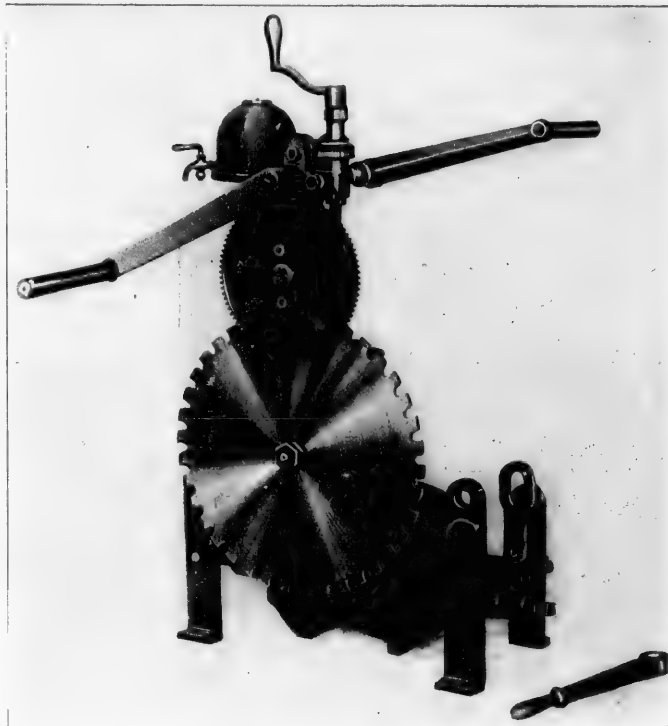
THE BRYANT PORTABLE RAIL SAW Nos. 5 A and 6 A

No. 5 A Machine
using 16-inch
saw. Designed
for **Steam
Railroads.**

Capacity, square
and all angle
cuts up to 45
degrees on rails
up to
100 pounds

It is exceedingly
valuable for
sawing rails for
crossings.

Makes a per-
fectly true cut
and **does not**
injure the
rail end.



No. 6 A Machine
using 20½-inch
saw. Designed
for **Street
Railroads.**

Capacity, square
and all angle
cuts up to 45
degrees on
Girder rails
9 inches in
height. Will
cut rails in the
ground and is
used for sawing
crossing angles,
joints and
square cuts of
all kinds. It is
valuable for
track repairs.

Bryant Portable Rail Saw No. 6 A.

No. 5 A PORTABLE SAWING MACHINE 16-inch Blade, with Automatic Feed

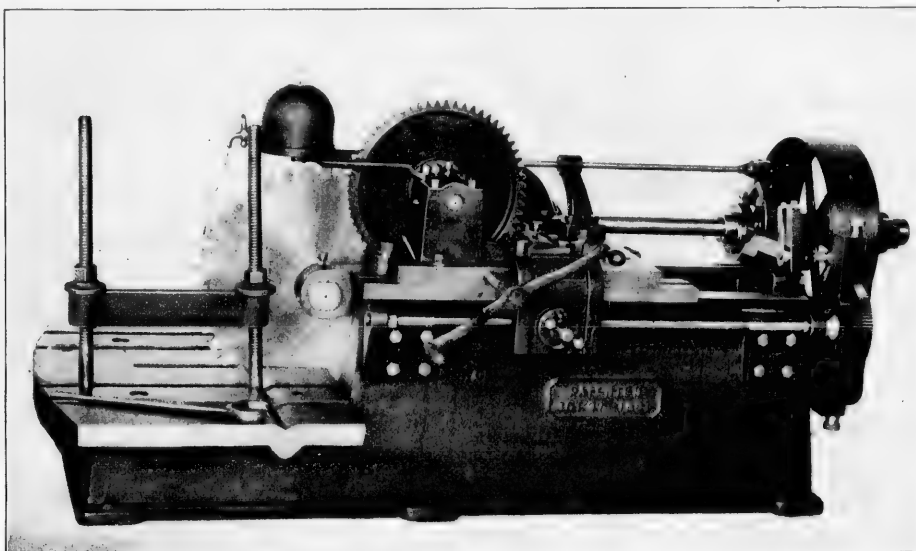
THE illustration above represents our No. 5 A Portable Rail Saw. This machine is designed especially for steam and street railroads: it will cut rails, beams, channels, etc., up to 7 inches in height, and at an angle of 45 degrees or less. It is generally operated by two men, but can be by one, as the great decrease of power required is explained by the fact that the power is applied directly to the periphery of the saw blade, which enables the operator to get the greatest amount of power possible with the least exertion. Continuous cutting can be done with little effort, owing to its ease of action. Steam rail can be cut in from 6 to 12 minutes. The saw blade is hollow ground and acts as a rotary planing cutter, it leaving the rail perfectly smooth and true. An accuracy of $\frac{1}{100}$ of an inch can be obtained. It is an indispensable tool to all track men. It is especially valuable in cutting off **rail ends**. It is of great value in making crossings and switch lay-outs on account of its ability to cut angles. It is well and strongly built, all feed gears, etc., being cut from solid steel; it is equipped with automatic feed and quick release, and can be attached to any rail in 30 seconds. Furnished complete with two Saw Blades and Grinder, ready for work. Weight of machine, 260 pounds; boxed, 300 pounds.

No. 6 A. A SPECIAL SIZE MADE FOR 9-INCH STREET RAIL 20½-inch Blade. With Automatic Feed

GIVING to the success of our No. 5 A Machine, described above, we offer a larger size called No. 6 A. This machine is an exact duplicate of the No. 5 A, but is larger, and uses a 20½-inch instead of a 16-inch saw blade. It is especially designed to meet the wants of street railroads and contractors, where it is necessary to cut rails, etc., up to and including 9 inches in height and up to a 45 degree angle. The machine is arranged so as to be carried easily by two men. Furnished with two Saw Blades and Grinder complete. Weight, 285 pounds; boxed, 330 pounds.

Prices upon application.

BRYANT POWER SAWING MACHINES No. 10



DETAILS

Weight, 2,500 pounds
 Floor Space, 2 x 7 feet
 Speed of Driving Shaft, . . . 140 revolutions per minute
 Speed for Rails, 125 revolutions per minute
 Size of Main Shaft, 1 3/4 inches
 Capacity, 15-inch I Beams, Solids, 5 x 12 inches

Horizontal Travel, 18 inches
 Automatic Feed, 1/8 to 1 1/8 inch per minute
 Dimensions Driving Pulley, . . . 18 x 5 inches
 Saw Arbor, 1 3/4 inches
 Horse Power Required, 1 1/2 to 2
 Diameter Sprocket, 6 1/8 inch

THE No. 10 Power Sawing Machine is designed for architectural iron work and will cut a 15-inch I beam straight or any angle up to 45 degrees on the end. Also for making frogs, crossings and switches, and for use in forge shops, etc.

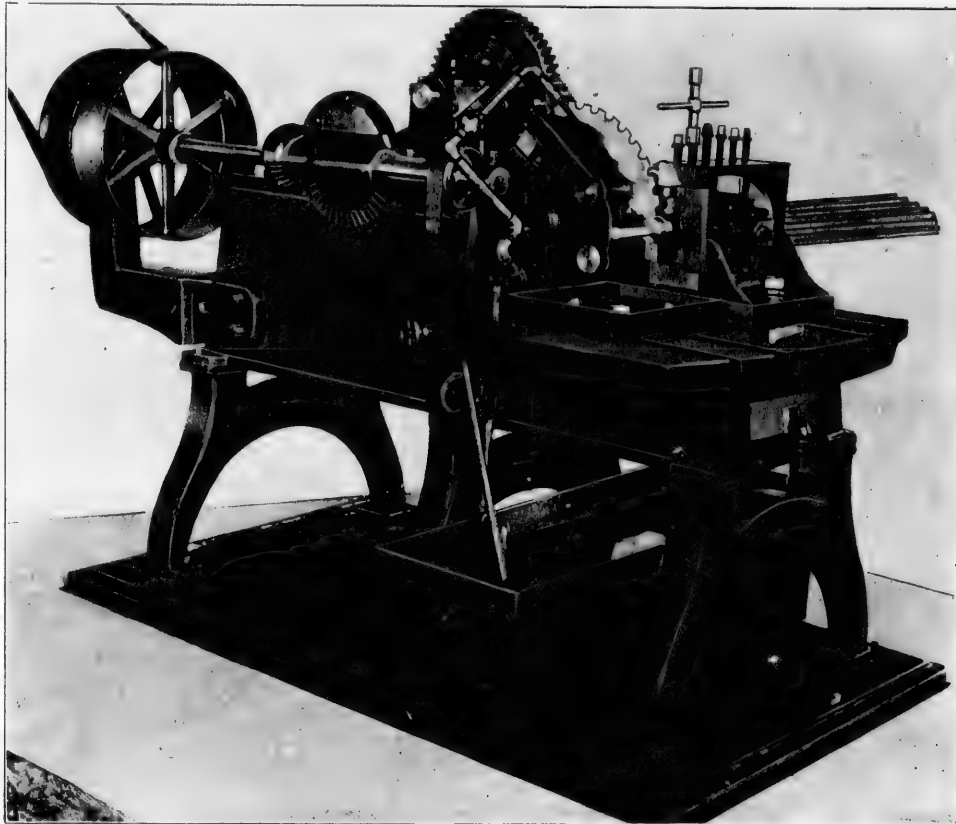
By driving the saw from its periphery we are enabled to use very coarse teeth, which act as a milling cutter and which is the only correct method of cutting metals at low speed, preventing choking of or destroying teeth and blades, which occurs where fine teeth are used.

It is constructed of the very best material, in a workmanlike manner, and fully guaranteed. Is provided with adjustable sprocket, allowing 6-inch wear of saw blades without change.

Bearings of saw arbor are bushed with phosphor bronze. Split feed nuts are made of bronze. It is provided with automatic stop and has our latest feeding mechanism, allowing feed to be changed instantly, to slow or fast, while machine is in motion. Built very substantially and geared down 30 to 1, requiring a very small amount of power. The sprocket which drives the saw is made of Park Brothers' special steel, and fully guaranteed.

It is furnished complete with Grinder and two Saw Blades.

SPECIAL No. 10 BRYANT SAW, ON LEGS



EQUIPPED with Oil Pump and specially designed Adjustable Guides.

The Guides are necessary on account of using very thin Saw Blades, $\frac{1}{8}$ -inch thick, for cutting Tool Steel and any stock up to 8 inches in diameter where extreme accuracy is required.

We also furnish with the machine a specially designed chuck for holding the work, a number of pieces at a time.

It is always necessary that we have the exact sizes and shapes of work to be cut when order is given, in order to furnish the correct chuck.

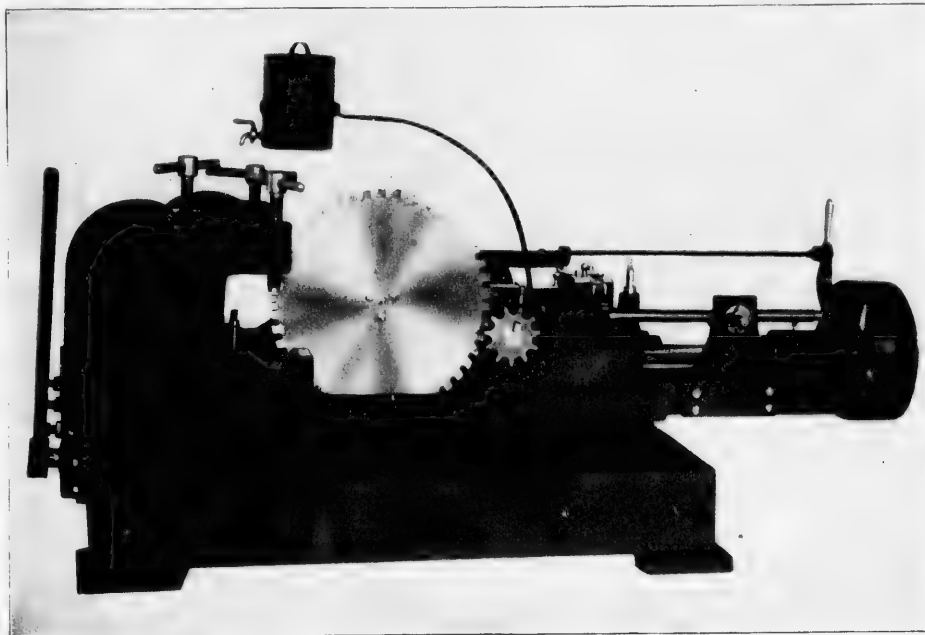
The machine is equipped with Automatic Feed of three speeds, Automatic Stop and all necessary piping and tanks, not including the floor plate

Our facilities for getting up special Sawing Machines are unsurpassed.

Send blue print or sketch showing results desired and estimates will be promptly furnished.

No. 14 BRYANT SAW

DESIGNED FOR CUTTING OUT CRANK SHAFT FORGINGS



DETAILS

Weight, 6,500 pounds
 Horse Power required, 3
 Speed of Driving Shaft, 140 revolutions per minute
 Speed of Saw Blade, 3 1/4 revolutions per minute
 Feeding speeds, 1/4 to 1 inch per minute
 Size of Saw Blade, 25 inches
 Thickness of Blades, 1/4 inch
 Size of Saw Arbor, 4 inches
 Size of Driving Shaft, 2 1/4 inches
 Size of Driving Sprocket, 6 1/2 x 2 inches thick
 Horizontal travel of Saw, 18 inches
 2 1/2-inch Adjustment Sprocket allowing for 5-inch wear of
 Saw Blade.
 Floor Space, 4 x 8 feet

Hardened Steel Worm Phosphor.
 Bronze Worm
 Ball Bearing for end thrust of Worm.
 Phosphor Bronze Bushings for Pulley, Worm, Hood, etc.
 Quick return of carriage to starting point with rack and
 pinion.
 All Bearings adjustable for wear.
 Saw Guide Special Guiding Machine, Wrenches and Extra
 Saw with each Machine.
 Automatic Stop.
 Feed changed instantly
 Size of Pulley, 18 x 6 inches
 Lateral adjustment of work table, 17 inches

THE machine illustrated above is designed exclusively for the throw on crank
 shaft forgings and the capacity is 10 x 10 inch solids.

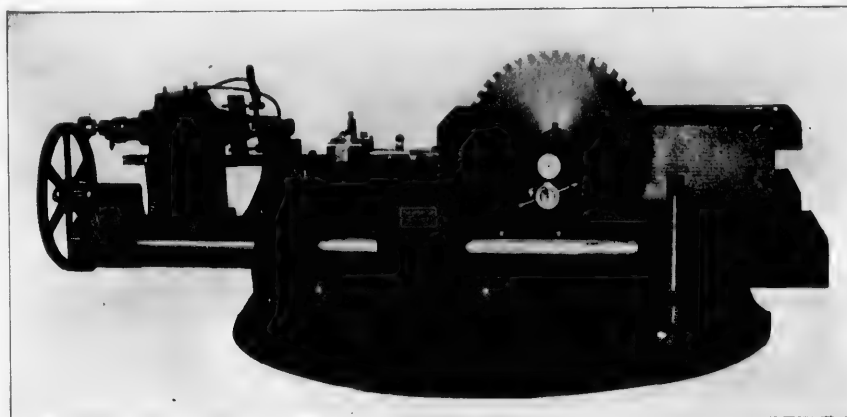
The lateral adjustment of the cutting table on which the forging is placed is 7 inches,
 which is approximately the length of the crank pin. In other words, this machine will cut
 out any crank shaft up to 10-inch diameter on which the depth of the cut does not exceed 10 inches
 and the pin does not exceed 7 inches in length.

In a recent test this machine accomplished work in **one** hour which could not be done in ten
 hours on a planer or slotter.

Furnished complete with two Saw Blades, Grinder, Clamps, Wrenches, Etc.

BRYANT COLD METAL SAWING No. 15 WITH CIRCULAR BASE

Equipped with Electric Motor



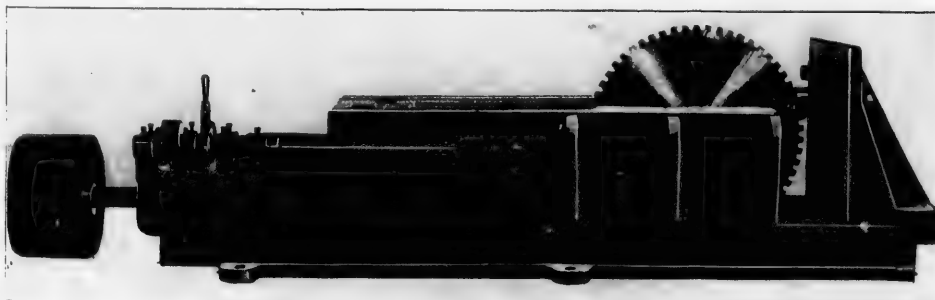
DETAILS

Weight, 7,000 pounds
 Floor Space, 9 feet circle
 Horse Power required, 3
 Speed of Driving Shaft, 140 per minute
 Speed of Saw Blades, 334 per minute
 Feeding speeds, $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, 1 per minute
 Size of Saw Arbor, 3 inches
 Size of Driving Shaft, 2 $\frac{1}{4}$ inches
 Size of Sprocket, dia. 6 $\frac{1}{2}$ in., thickness 2 in. Cast steel
 All Bearings adjustable.
 Size of Work Tables, Upper 20 x 48 inches and 22 x 18 inches.

Base Swivels 90 degrees by Segemental Rack and Pinion.
 Capacity Solids, 24 x 10 inches at all angles
 Horizontal travel of Saw, 28 inches
 Available diameter of Saw above upper table, . . 10 inches
 Diameter of Saw Blades, 25 inches
 Thickness of Saw, $\frac{3}{4}$ inch
 Lateral adjustment of Saw, 1 $\frac{1}{8}$ inch
 Adjustment of Sprocket, 2 $\frac{1}{2}$ inch, allowing for 6-inch wear of saws.
 Height of Work Tables, 24 inches
 Lower, 20 x 48 inches and 22 x 18 inches

THIS machine has been designed to meet the requirements of structural iron workers and bridge builders who do not have sufficient space to handle long "I" beams, channels, etc. It is adapted to the largest range of work, and its capacity in relation to its size and price is over twice as great as any other machine. We have incorporated in this machine several very important improvements, the objects of which were to increase the feeding speeds, prolong the life of saw blades, and give a certain amount of lateral adjustment to the Saw. The feeding mechanism especially is greatly improved and can be quickly adjusted from slow to fast while the machine is in motion. The carriage has a quick return by means of rack and pinion, and the operation of the machine is greatly simplified. All bearings are adjustable for wear, and nothing but the very best material enter into the construction. The saw arbor is made of the best hammered steel, the sprocket of Jessop's best cast steel, the driving worm with phosphor bronze, engaging a hardened steel worm. The machine as shown is equipped with electric motor and circular base. This machine, however, is made with stationary base for belt power, such machines being best adapted for steel foundries, rolling mills, forge shops, railroads, frog and switch works, etc. Each machine is equipped with a Pratt & Whitney Oil Pump for lubricating the Saws, Oil Tank, Wrenches, etc., and furnished complete with two 25-inch Saw Blades and special Grinding Machine.

BRYANT METAL SAWING MACHINE No. XX



DETAILS

Weight, 6,500 pounds
 Speed of Driving Shaft, 120 revolutions
 Size of Pulleys, 18 x 5 inches, Ti. & Lo.
 Size of Saws, 30 inches diameter, $\frac{1}{4}$ inch thick
 Size of Steel Sprocket, $11\frac{1}{4} \times \frac{3}{4}$ inches
 Revolutions of Saw Blade, 4 per minute
 Feeding Speeds, $\frac{1}{2}$ and 1 inch per minute
 Adjustable Angle Plates for Lower Table.
 Horizontal Travel of Saw, 42 inches
 Pratt & Whitney Oil Pump.

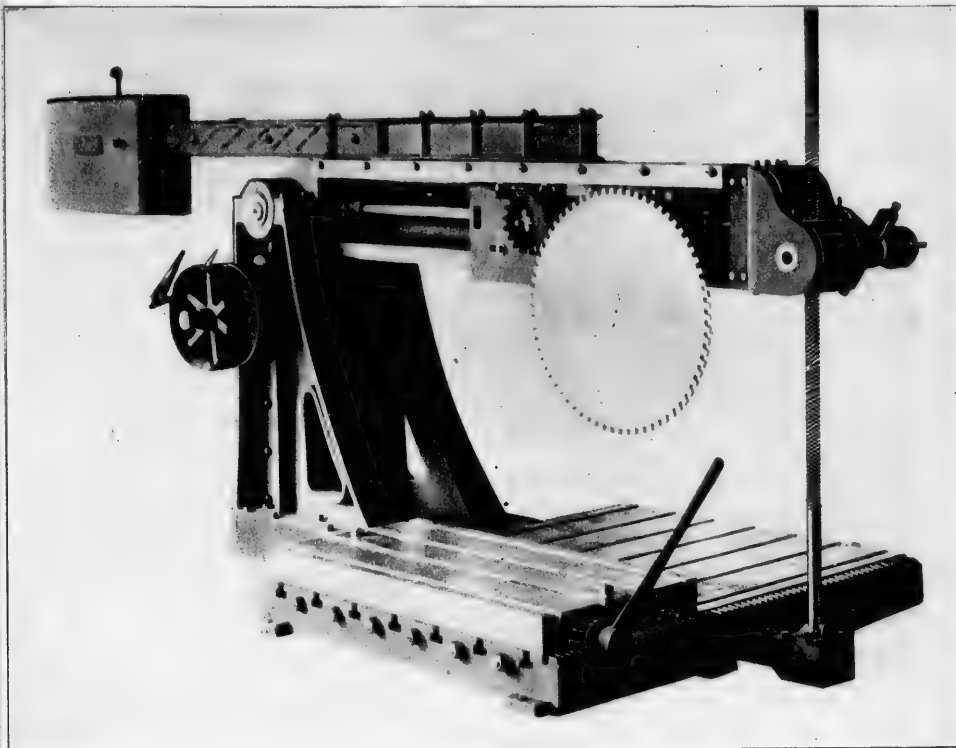
Floor Space, 11 x 2 $\frac{1}{4}$ feet
 Height of Machine, 24 inches
 Height to Lower Table, 8 inches
 Size of Upper Work Table, 7 ft. 3 in. x 2 ft. 3 in.
 Size of Lower Work Table, 24 x 27 inches
 Capacity, 36 x 10 inch solids, any angle
 Mitre, 20 inch "I" beams standing up
 Available diameter of Saw above Tables, 10 inches
 Horse Power required, from 2 to 4

THE machine illustrated above was designed for architectural iron works, forge shops, frog and switch works and foundries. It has lately been entirely remodeled and has our new special design automatic feed. It is also equipped with angle plates for square cutting and false tables—not shown in cut. The machine as now constructed is especially adapted for architectural iron work, bridge work, and frogs and switches, on account of its ability to cut any angle within its capacity. The automatic feed is changeable from fast to slow instantly while the saw is running. The carriage has a quick return and the work can be adjusted to position quickly by means of movable clamps.

All gearing is cut from the solid and made of the best cast steel. All bearings are adjustable for wear; the Saw Arbor is $2\frac{1}{4}$ inches in diameter and turns in phosphor bronze bushings.

The machine is built in a workmanship-like manner, and only the best material is used in its construction. The saw blade runs in special guides—lately adopted, and is lubricated by a Pratt & Whitney Oil Pump, which greatly prolongs the life of the blade. The machine is furnished complete with two 30-inch Saw Blades, special Grinding Machine for sharpening blades, Oil Tank and Pump, Wrenches, etc.

BRYANT POWER SAWING MACHINE, NO. XXXXX



DETAILS

Weight, 18,000 pounds
 Floor Space, 7 x 11 feet
 Height to Axis of Arm, 5 feet 6 inches
 Vertical Feeding Speeds, $\frac{1}{2}$ to 1 inch per minute
 Longitudinal travel of Saw, 4 feet
 Surface of Lower Table, $5\frac{1}{2} \times 6\frac{1}{2}$ feet
 Surface of Adjustable Table $2\frac{1}{2} \times 5\frac{1}{2}$ feet
 Steel Sprocket, . . $10\frac{1}{8}$ inches diameter; $1\frac{1}{4}$ inches thick

Speed of Driving Shaft, 180 to 200 revolutions
 Diameter of Saw Blade, 36 inches
 Radial Swing of Arm at Axis, 4 feet 7 inches
 Adjustable Sprocket, 6 inch wear of Blade
 Size of Main Shaft, $2\frac{7}{8}$ inches
 Size of Driving Pulleys, 18 x 6 inches
 Size of Saw Arbor, $2\frac{1}{8}$ inches

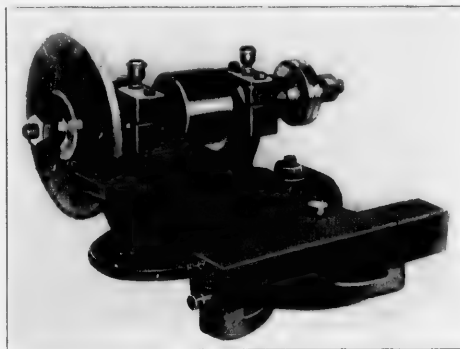
MADE especially for steel casting work, foundries, etc., for cutting off shrink heads up to 14 inches diameter, irregular-shaped castings, etc. Counterbalanced arm easily raised or lowered by special device. Automatic feed which can be changed while the machine is in operation, getting any feed required. Provided with Adjustable Table, the saw arbor being adjustable longitudinally in arm, making it possible to saw off two or more shrink heads without moving or re-clamping the work.

All gears are cut from solid steel. Driving Sprockets are made of special steel furnished by Park Bros. Steel Co. and are fully warranted.

The machine is adapted to a very wide range of work and can be easily operated by one man.

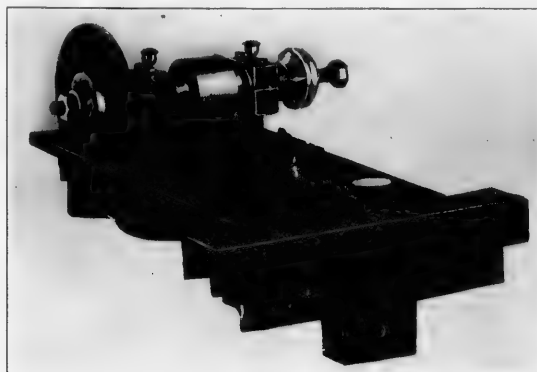
Furnished under our full guarantee, complete with two Saw Blades, No. 2 Grinder, Clamps, Bolts, Tank for lubricant, Wrenches, etc.

Sawing Machine Grinders.



SPECIAL GRINDING MACHINE, No. 1

Small size, Speed 1600 revolutions per minute.
Designed for Grinding Circular and Bryant Saw Blades up to 24 inches.
Furnished gratis with Nos. 5, 5A, 6, 6A and 10.



SPECIAL GRINDING MACHINE, No. 2

Large size, Speed 1600 revolutions per minute.
Designed for Circular and Bryant Saw Blades from 24 to 30 inches.
Furnished gratis with our large Machines, XX, Nos. 14, 15 and 5X.

See Instructions for Grinding Circular Saw Blades on opposite page.

Very Important

METAL SAW GRINDING INSTRUCTIONS

GOOD RESULTS FROM ANY MACHINE are only obtained when the tool is kept in perfect condition.

A metal Saw must be kept reasonably sharp, have a proper clearance for each tooth and be perfectly round.

It does not require a blade of **Extreme Hardness** to saw ordinary steel or iron. Keep the blade well lubricated, run at a low speed, see that the work is firmly fastened to the cutting table and does not move.

GRINDING INSTRUCTIONS

EACH tooth must have a clearance of $\frac{1}{8}$ inch. Place the saw blade on Grinding Table with pin in center hole of saw, bring front of tooth against the $\frac{3}{16}$ -inch pin, then move the adjusting screw until the saw tooth barely touches the emery wheel. Be sure to keep the front of the tooth against the $\frac{3}{16}$ -inch pin and move the table backward and forward two or three times across the face of the emery wheel, then you are ready to change to next tooth. Before changing see that the table is pushed from you, then lift the blade over the $\frac{3}{16}$ -inch pin to next tooth, being careful not to lift it off of the large pin in the center of saw. Now proceed as before, and so on through all of the teeth in the saw. The entire dullness must not be ground off at one revolution of the saw, but after you have ground around once adjust the screw slightly and go around again. A chalk mark placed on the blade will show you where to start each time. If the saw is very dull it is better to grind around four or five times so as not to disturb the temper of the blade. After the saw teeth have been worn down say $\frac{1}{8}$ inch, the rear corner should be rounded off each time the saw is sharpened, so as to present a smooth surface to the driving sprocket.

It is also well when cutting hard stock to chamfer off the corners of the teeth, taking care not to destroy the clearance. It is absolutely necessary that these instructions are carefully followed out. Every blade that we send out is carefully tested before leaving our works and is of correct temper for cutting iron and steel (unless of unusually high carbon) when properly used. Blades when received from us are always properly ground. If blades dull quickly you are running or feeding too fast for the stock you are cutting.

We recommend the following lubricant for our saws: 10 pounds whale-oil soap, 15 pounds sal soda, 2 gallons best lard oil.

Shave the soap so that it will dissolve readily, put the whole in a clean 40-gallon cask and fill with water. When thoroughly dissolved it is ready for use. The whale-oil soap can be obtained from any wholesale druggist. For less quantities use the same proportion.

THE Q & C COMPANY

A FEW PRACTICAL SUGGESTIONS TO USERS OF COLD SAWING MACHINES

IT IS our constant aim to co-operate cordially with all customers using our goods in order to not only avoid their having trouble or delays, but to insure their getting most and best results, and after years of experience, not only from personal tests at our Works, but having the advantage of suggestions made by the large number of customers using our Metal-Cutting Machines, we have thought it best to offer the following additional suggestions in regard to the *care* and *use* of Metal-Cutting Machines.

Although there are many of these machines in almost constant use, to a large number of metal workers the cold saw is an experiment and the conditions for its successful operation need to be carefully considered.

While the process of cutting metals with a cold saw is not difficult and can be readily understood and rapidly accomplished by careful effort, there are a few essential points which must be constantly borne in mind, the ignorance of or failure to observe which will minimize, if not actually defeat entirely, the advantages to be gained from the use of a metal saw.

The following points are of vital importance:

- 1st. The machines should be properly adjusted to the work; a Power Saw on good foundation, and the Portable Saws firmly and securely fastened to the rail.
- 2d. The machines should be fed according to the size and texture of the metal being cut, but never crowded.
- 3d. Proper lubrication is of great importance. Failure to get good results can often be traced to its absence.
- 4th. Good, careful operators are indispensable, increasing the results gained many fold and decreasing the possibility of unsatisfactory service or injury to the machine.

If for any cause you should not get satisfactory results from the use of any of our machines, we would be glad to have you carefully submit the matter to us, giving full details, as we feel positive we can overcome your difficulty to our mutual satisfaction. These machines are now used very extensively, effecting great saving in the matter of time, labor and expense as against old methods of metal cutting, and we will cheerfully furnish references to our customers upon request.

THE Q & C COMPANY

**LIST OF SAW BLADES
FOR Q & C SHOP SAWS, AND BRYANT PORTABLE
AND POWER SAWING MACHINES**

12-inch Blades for No. 1 Shop Saw and all machines using this length of blade.
14-inch X Grade Blades for No. 2 Shop Saw for cutting ordinary metals.
14-inch XX Grade Blades for No. 2 Shop Saw for very hard metals.
17-inch Blades for No. 4 Shop Saw for general work.
10-inch Circular Blades for No. 8 Shop Saw for general work.

**These Blades are made of the Finest Material and are
Recognized to be of Superior Quality.**

16-inch Diameter Circular Blades for Nos. 5 and 5 A Portable Rail Saws.
20½-inch Diameter Circular Blades for Nos. 6 and 6 A Portable Rail Saws.
20½-inch Diameter Circular Blades for No. 10 Power Saw.
25-inch Diameter Circular Blades for Nos. 14 and 15 Power Saws.
30-inch Diameter Circular Blades For No. XX Power Saw.
36-inch Diameter Circular Blades for No. XXXXX Power Saw.

**All Circular Blades are warranted against defection in material and improper
tempering, and will be replaced if not found satisfactory, provided
claim is made within 10 days from purchase.**

RECENT IMPROVEMENTS IN OUR POWER SAWING MACHINES

WE have made recent improvements in the mechanism of all of our Power Sawing Machines which greatly reduce the cost of operation.

Our latest Power Saws are equipped with adjustable sprockets, which allow a wear of nearly 6 inches on the diameter of the saw blade without necessitating a change of sprocket or regumming.

The size of the sprockets have been greatly reduced to increase the leverage and thereby reduce the amount of power required, and have also been increased in thickness to give greater strength and more wearing surface.

Sprockets are made of the best crucible steel and fully guaranteed, and our principle of driving the saw blade by the periphery, which minimizes the amount of power necessary as well as stiffening the blade when in use, we are confident will be appreciated by our customers.

**A FEW OF MANY USERS OF
BRYANT POWER SAWING MACHINES**

AMERICAN BRIDGE WORKS,	Chicago, Ill.
AMERICAN BRAKE COMPANY,	St. Louis, Mo.
BASS FOUNDRY AND MACH. COMPANY,	Ft. Wayne, Ind.
BANCROFT, CHAS. A.,	Philadelphia, Pa.
CRANE ELEVATOR COMPANY,	Chicago, Ill.
CAMPBELL, H. E.,	Albany, N. Y.
DUTCHER, J. A. & P. E.,	Milwaukee, Wis.
DETROIT DRY DOCK COMPANY,	Detroit, Mich.
ELLIOT FROG AND SWITCH COMPANY,	East St. Louis, Mo.
ECKSTEIN, C. G. & CO.,	New York City, N. Y.
FRASER & CHALMERS,	Chicago, Ill.
FAIR MANUFACTURING COMPANY,	Milwaukee, Wis.
GLOBE IRON WORKS,	Chicago, Ill.
GOODYEAR SHOE MACHINERY COMPANY,	Chicago, Ill.
HERRING, HALL, MARVIN CO.,	Cincinnati, Ohio.
HILTON BRIDGE COMPANY,	Albany, N. Y.
ILLINOIS STEEL COMPANY,	Bay View, Wis.
IRONTON STRUCTURAL STEEL COMPANY,	Duluth, Minn.
JACKSON ARCHITECTURAL IRON WORKS,	New York City, N. Y.
JUDSON MANUFACTURING COMPANY,	Oakland, Cal.
KILEY, THOS. W. & CO.,	New York City, N. Y.
KANSAS CITY CABLE RAILWAY COMPANY,	Kansas City, Mo.
LASSIG BRIDGE AND IRON WORKS,	Chicago, Ill.
LISTER, R. A. & CO.,	Dursley, England.
MORAN BROS.,	Seattle, Wash.
MURRAY HILL IRON WORKS,	New York City, N. Y.
NEW ENGLAND STRUCTURAL COMPANY,	East Everett, Mass.
PAIGE IRON WORKS,	Chicago, Ill.
PAXTON & VIERLING,	Omaha, Neb.
ROCHESTER BRIDGE COMPANY,	Rochester, Ind.
KAMAPOO IRON WORKS,	Hilburn, N. Y.
SARGENT COMPANY,	Chicago, Ill.
ST. PAUL FOUNDRY COMPANY,	St. Paul, Minn.
TOLEDO BRIDGE COMPANY,	Toledo, Ohio.
TERRE HAUTE CAR AND MANUFACTURING COMPANY,	Terre Haute, Ind.
UNITED STATES NAVY YARDS,	Washington, D. C.
UNION STOCK YARDS TRANSIT COMPANY,	Chicago, Ill.
VULCAN IRON WORKS,	Toledo, Ohio.
VERMONT CONSTRUCTION COMPANY,	St. Albans, Vt.
WISCONSIN BRIDGE AND IRON COMPANY,	Milwaukee, Wis.

**A FEW STEAM RAILROADS USING
THE BRYANT PORTABLE RAIL SAWS**

A. T. & S. F. R'Y CO.

ATLANTIC COAST LINE.

BOSTON & ALBANY R. R.

BALTIMORE & OHIO R. R.

BOSTON & MAINE R'Y CO

C. & N. W. R. R. CO.

C. N. O. & T. P. R. R. CO.

CANADIAN PACIFIC R R

D. M. & N R. R.

DELAWARE & HUDSON R'Y

DULUTH & IRON RANGE R'Y.

FITCHBURG R'Y CO

FORT WAYNE & ELMWOOD R'Y.

GRAND TRUNK R'Y.

GREAT NORTHERN R'Y.

GEORGIA R R. CO.

HOUSATONIC R'Y CO.

ILLINOIS CENTRAL R'Y CO

INDIANAPOLIS & VINCENNES R'Y CO.

INDIANA, ILLINOIS & IOWA R'Y.

JACKSONVILLE, ST A. & IND. RIVER R. R

LEHIGH VALLEY R'Y.

L. S. & M. S. R'Y CO

L & N R'Y CO

MICHIGAN CENTRAL R'Y CO

MAINE CENTRAL R. R.

MISSOURI PACIFIC R. R.

NEW YORK CENTRAL & HUDSON RIVER R R

N Y N H & H R. R.

NORTHERN PACIFIC R. R.

OMAHA & ST. LOUIS R. R.

PENNA. R. R. CO.

PHILADELPHIA & READING R. R

ST. LOUIS & SOUTHWESTERN R'Y

SOUTHERN PACIFIC R. R.

TEXAS PACIFIC R'Y

TERMINAL ASSN OF ST. LOUIS

UNION PACIFIC SYSTEM

WABASH R'Y

W & L E R'Y CO

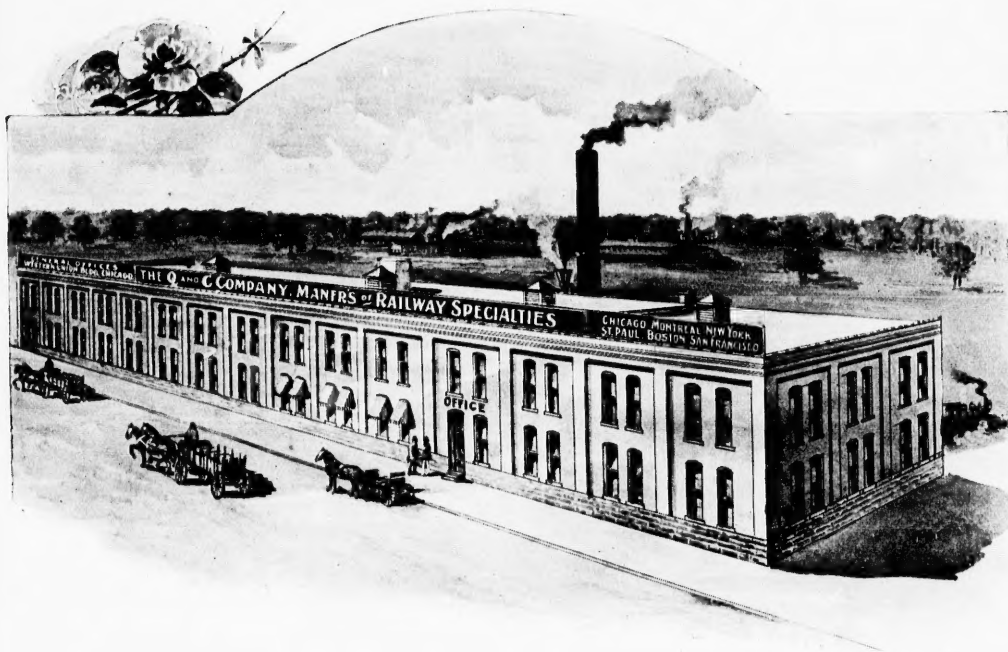
**Many Roads use from Three to Six Machines
Distributed Over Their Lines.**

A FEW OF MANY

STREET RAILWAYS USING OUR PORTABLE RAIL SAWS

ALBANY STREET RAILWAY COMPANY,	Albany, N. Y.
BROADWAY AND SEVENTH STREET RAILWAY,	New York City.
BROOKLYN HEIGHTS RAILWAY COMPANY,	Brooklyn, N. Y.
CHICAGO CITY RAILWAY COMPANY,	Chicago, Ill.
CITIZENS STREET RAILWAY COMPANY,	Memphis, Tenn.
DETROIT CITIZENS STREET RAILWAY,	Detroit, Mich.
DENVER CON. TRAMWAY COMPANY,	Denver, Col.
DES MOINES CITY STREET RAILWAY COMPANY,	Des Moines, Iowa.
ERIE ELECTRIC MOTOR COMPANY,	Erie, Pa.
FT. WAYNE & BELLE ISLE RAILWAY,	Detroit, Mich.
GALVESTON CITY RAILWAY COMPANY,	Galveston, Texas.
HOUSTON CITY RAILWAY COMPANY,	Houston, Texas.
HOLYOKE STREET RAILWAY COMPANY,	Holyoke, Mass.
INDIANAPOLIS UNION RAILWAY COMPANY,	Indianapolis, Ind.
JERSEY CITY & BERGEN RAILWAY COMPANY,	Jersey City, N. J.
KANSAS CITY CABLE RAILWAY COMPANY,	Kansas City, Mo.
LOUISVILLE STREET RAILWAY COMPANY,	Louisville, Ky.
LOS ANGELES STREET RAILWAY COMPANY,	Los Angeles, Cal.
MANHATTAN RAILWAY COMPANY (L),	New York City.
METROPOLITAN W. S. RAILWAY COMPANY (L),	Chicago, Ill.
MARKET STREET CABLE COMPANY,	San Francisco, Cal.
NEW ORLEANS TRACTION COMPANY,	New Orleans, La.
NASHVILLE STREET RAILWAY COMPANY,	Nashville, Tenn.
NASSAU ELECTRIC RAILWAY COMPANY,	Brooklyn, N. Y.
OMAHA AND COUNCIL BLUFFS RAILWAY COMPANY,	Omaha, Neb.
PACIFIC IMPROVEMENT COMPANY,	San Francisco, Cal.
ROCHESTER STREET RAILWAY COMPANY,	Rochester, N. Y.
ROCKFORD CITY RAILWAY COMPANY,	Rockford, Ill.
SOUTH CHICAGO CITY RAILWAY COMPANY,	Chicago, Ill.
SPRINGFIELD STREET RAILWAY COMPANY,	Springfield, Mass.
SCRANTON TRACTION COMPANY,	Scranton, Pa.
SALT LAKE CITY RAILWAY COMPANY,	Salt Lake City, Utah.
TORONTO STREET RAILWAY COMPANY,	Toronto, Ont.
TERRE HAUTE ELECTRIC RAILWAY COMPANY,	Terre Haute, Ind.
UNION STREET RAILWAY COMPANY,	New Bedford, Mass.
UNION RAILWAY COMPANY,	Providence, R. I.
WEST END STREET RAILWAY COMPANY,	Boston, Mass.
WEST CHICAGO STREET RAILWAY COMPANY,	Chicago, Ill.
WILMINGTON CITY RAILWAY COMPANY,	Wilmington, Del.
YOUNGSTOWN STREET RAILWAY COMPANY,	Youngstown Ohio.

The Q & C Company's Works



Chicago Heights, Illinois

All goods consigned to our company, either by express or freight, should be sent direct to our works as above, express receipts and bills of lading forwarded to our

GENERAL OFFICES:

Western Union Building, Jackson Boulevard and Clark Street

CHICAGO, ILLINOIS



TRADE MARK



**A GUARANTEE OF
GOOD WORKMANSHIP AND RELIABILITY**